

Exhibit 4

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff;

v.

Civil Action No. 13-1835-RGA

2WIRE, INC.,

Defendant.

MEMORANDUM OPINION

Brian E. Farnan and Michael J. Farnan, FARNAN LLP, Wilmington, DE; Peter J. McAndrews, Thomas J. Wimbiscus, James P. Murphy, Paul W. McAndrews, Anna M. Targowska, and Rajendra Chiplunkar, MCANDREWS, HELD & MALLOY, LTD, Chicago, IL, attorneys for Plaintiff.

Jody C. Barillare, MORGAN LEWIS & BOCKIUS LLP, Wilmington, DE; Brett Schuman, Rachel M. Walsh, and Monte M.F. Cooper, GOODWIN PROCTER LLP, San Francisco, CA, attorneys for Defendant.

April 10, 2019


ANDREWS, U.S. DISTRICT JUDGE:

Currently pending before the Court are the parties' various motions for summary judgment (D.I. 715, 735, 739, 746, 856) and *Daubert* motions (D.I. 718, 720, 730). The parties have fully briefed the issues. (D.I. 716, 719, 721, 731, 736, 740, 747, 841, 843, 850, 853, 854, 855, 858, 915, 918, 919, 925, 928, 929, 930). After full consideration of the briefing, the motions are resolved as follows.

I. BACKGROUND

Plaintiff TQ Delta filed this lawsuit against Defendant 2Wire on November 4, 2013 asserting infringement of twenty-four patents. (D.I. 1). I have divided the case into separate trials based on families of patents. (D.I. 280). For the Family 2 trial, Plaintiff currently asserts two claims of U.S. Patent No. 7,453,881 ("the '881 patent"). The Accused Products are 2Wire's 5168N, 5168NV, 5268AC, and i3812V CPE devices. The '881 patent relates to DSL technologies. Specifically, the '881 patent claims systems and methods of "reducing latency, or end-to-end delay of data transmission, in asynchronous transfer mode ('ATM') communications systems . . . thereby generating a high data rate connection in ATM communication systems." (D.I. 486 at 4).

The asserted claims read as follows:

17. A plurality of bonded transceivers, each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers, wherein a data rate for the first of the bonded transceivers is different for a second of the bonded transceivers.

18. The transceivers of claim 17, wherein the at least one transmission parameter value is a Reed Solomon Coding parameter value, an interleaving parameter value, a coding parameter value, a codeword size value or a framing parameter value.

('881 patent, cl. 17-18). I have construed three of the terms in the '881 patent and have set out the constructions below:

Claim Term	Court's Construction
"transceiver"	"communications device capable of transmitting and receiving data wherein the transmitter portion and receiver portion share at least some common circuitry"
"plurality of bonded transceivers"	"two or more transceivers located on the same side of two or more physical links where each transceiver is configurable to transmit or receive a different portion of the same bit stream via a different one of the physical links, wherein 'configurable to' precludes rebuilding, recoding, or redesigning any of the components in a 'plurality of bonded transceivers'"
"utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers"	"utilizing at least one transmission parameter value to reduce a difference in configuration latency between the bonded transceivers"

(D.I. 492 at 2).

There are international standards relevant to the functionality of DSL systems. Both the International Telecommunications Union ("ITU") and the IEEE have developed such standards. The relevant standards for the dispute between the parties are ITU-T G.998.2 ("G.998.2"), entitled "Ethernet-based multi-pair bonding," and IEEE 802.3ah-2004. Plaintiff contends that compliance with these standards establishes infringement. Defendant disagrees.

Both Plaintiff and Defendant have submitted various motions for summary judgment on issues of infringement and invalidity, as well as *Daubert* motions.

II. LEGAL STANDARD

A. Summary Judgment

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The moving party has the initial burden of proving the absence of a genuinely disputed material fact relative to the claims in question. *Celotex Corp. v. Catrett*, 477 U.S. 317, 330 (1986). Material facts are those "that could affect the outcome" of the proceeding, and "a

dispute about a material fact is ‘genuine’ if the evidence is sufficient to permit a reasonable jury to return a verdict for the nonmoving party.” *Lamont v. New Jersey*, 637 F.3d 177, 181 (3d Cir. 2011) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)). The burden on the moving party may be discharged by pointing out to the district court that there is an absence of evidence supporting the non-moving party’s case. *Celotex*, 477 U.S. at 323.

The burden then shifts to the non-movant to demonstrate the existence of a genuine issue for trial. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–87 (1986); *Williams v. Borough of West Chester, Pa.*, 891 F.2d 458, 460–61 (3d Cir. 1989). A non-moving party asserting that a fact is genuinely disputed must support such an assertion by: “(A) citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations . . . , admissions, interrogatory answers, or other materials; or (B) showing that the materials cited [by the opposing party] do not establish the absence . . . of a genuine dispute” Fed. R. Civ. P. 56(c)(1).

When determining whether a genuine issue of material fact exists, the court must view the evidence in the light most favorable to the non-moving party and draw all reasonable inferences in that party’s favor. *Scott v. Harris*, 550 U.S. 372, 380 (2007); *Wishkin v. Potter*, 476 F.3d 180, 184 (3d Cir. 2007). A dispute is “genuine” only if the evidence is such that a reasonable jury could return a verdict for the non-moving party. *Anderson*, 477 U.S. at 247–49. If the non-moving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *See Celotex Corp.*, 477 U.S. at 322.

B. Daubert

Federal Rule of Evidence 702 sets out the requirements for expert witness testimony and states:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. The Third Circuit has explained:

Rule 702 embodies a trilogy of restrictions on expert testimony: qualification, reliability and fit. Qualification refers to the requirement that the witness possess specialized expertise. We have interpreted this requirement liberally, holding that a broad range of knowledge, skills, and training qualify an expert. Secondly, the testimony must be reliable; it must be based on the methods and procedures of science' rather than on 'subjective belief or unsupported speculation; the expert must have good grounds for his or her belief. In sum, *Daubert* holds that an inquiry into the reliability of scientific evidence under Rule 702 requires a determination as to its scientific validity. Finally, Rule 702 requires that the expert testimony must fit the issues in the case. In other words, the expert's testimony must be relevant for the purposes of the case and must assist the trier of fact. The Supreme Court explained in *Daubert* that Rule 702's helpfulness standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.

By means of a so-called "*Daubert* hearing," the district court acts as a gatekeeper, preventing opinion testimony that does not meet the requirements of qualification, reliability and fit from reaching the jury. *See Daubert* ("Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a) of the Federal Rules of Evidence whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.").

Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 404–05 (3d Cir. 2003) (cleaned up).¹

C. Patent Ineligible Subject Matter

Section 101 of the Patent Act defines patent-eligible subject matter. It provides: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The Supreme Court has recognized an implicit exception for three categories of subject matter not eligible for patentability—laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014). The purpose of these carve outs is to protect the “basic tools of scientific and technological work.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). “[A] process is not unpatentable simply because it contains a law of nature or a mathematical algorithm,” as “an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” *Id.* at 1293–94 (internal quotation marks and emphasis omitted). In order “to transform an unpatentable law of nature into a patent-eligible application of such a law, one must do more than simply state the law of nature while adding the words ‘apply it.’” *Id.* at 1294 (emphasis omitted).

The Supreme Court recently reaffirmed the framework laid out in *Mayo* “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. First, the court must determine whether the claims are drawn to a patent-ineligible concept. *Id.* If the answer is yes, the court must look to “the elements of the claim both individually and as an ‘ordered

¹ The Court of Appeals wrote under an earlier version of Rule 702, but the 2011 amendments to it were not intended to make any substantive change.

combination” to see if there is an “‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original). “A claim that recites an abstract idea must include ‘additional features’ to ensure that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].” *Id.* at 2357. Further, “the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Id.* at 2358 (quoting *Bilski v. Kappos*, 561 U.S. 593, 610-11 (2010)). Thus, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.* For this second step, the machine-or-transformation test can be a “useful clue,” although it is not determinative. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014).

“Whether a claim is drawn to patent-eligible subject matter under § 101 is an issue of law,” and “is a matter of both claim construction and statutory construction.” *In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008), *aff’d sub nom. Bilski v. Kappos*, 561 U.S. 593 (2010). “Claim construction is a question of law” *In re Nuijten*, 500 F.3d 1346, 1352 (Fed. Cir. 2007).

D. Infringement

A patent is infringed when a person “without authority makes, uses, offers to sell, or sells any patented invention, within the United States . . . during the term of the patent” 35 U.S.C. § 271(a). A two-step analysis is employed in making an infringement determination. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). First, the court must construe the asserted claims to ascertain their meaning and scope. *See id.* The trier of fact must then compare the properly construed claims with the accused

infringing product. *See id.* at 976. This second step is a question of fact. *See Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

“Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device.” *Kahn v. Gen. Motors Corp.*, 135 F.3d 1472, 1477 (Fed. Cir. 1998). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. *See Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). However, “[o]ne may infringe an independent claim and not infringe a claim dependent on that claim.” *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) (internal quotations omitted). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *See SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

When an accused infringer moves for summary judgment of non-infringement, such relief may be granted only if at least one limitation of the claim in question does not read on an element of the accused product, either literally or under the doctrine of equivalents. *See Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1376 (Fed. Cir. 2005); *see also TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1369 (Fed. Cir. 2002) (“Summary judgment of noninfringement is . . . appropriate where the patent owner's proof is deficient in meeting an essential part of the legal standard for infringement, because such failure will render all other facts immaterial.”). Thus, summary judgment of non-infringement can only be granted if, after viewing the facts in the light most favorable to the non-movant, there is no genuine issue as to whether the accused product is covered

by the claims (as construed by the court). *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999).

E. Anticipation

A patent claim is invalid as anticipated under 35 U.S.C. § 102 if “within the four corners of a single, prior art document . . . every element of the claimed invention [is described], either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1346 (Fed. Cir. 2009) (alterations in original). As with infringement, the court construes the claims and compares them against the prior art. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010). Anticipation “may be decided on summary judgment if the record reveals no genuine dispute of material fact.” *Encyclopaedia Britannica, Inc. v. Alpine Elecs. of Am., Inc.*, 609 F.3d 1345, 1349 (Fed. Cir. 2010).

F. Obviousness

A patent claim is invalid as obvious under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103; *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406-07 (2007). “Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *KSR*, 550 U.S. at 406 (internal citation and quotation marks omitted).

A court is required to consider secondary considerations, or objective indicia of nonobviousness, before reaching an obviousness determination, as a “check against hindsight bias.” See *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1078-79 (Fed. Cir. 2012). “Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Where “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.” *KSR*, 550 U.S. at 427.

G. Indefiniteness

Section 112 requires that “a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014); see also 35 U.S.C. § 112 (“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.”). The requirement that patent claims be definite requires that patents be “precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them.” *Nautilus*, 572 U.S. at 909 (cleaned up).

“Indefiniteness is a question of law” appropriate for summary judgment. *Eli Lilly & Co. v. Teva Parenteral Meds., Inc.*, 845 F.3d 1357, 1370 (Fed. Cir. 2017). A claim term “is indefinite if its language ‘might mean several different things and no informed and confident choice is

available among the contending definitions.” *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed Cir. 2015) (quoting *Nautilus*, 572 U.S. at 911 n.8).

H. Written Description

The written description requirement contained in 35 U.S.C. § 112, ¶ 1 requires that the specification “clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Ariad Pharm., Inc., v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (alteration in original) (internal quotation marks omitted). “In other words, the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* The written description inquiry is a question of fact. *See id.* Although it is a question of fact, “[c]ompliance with the written description requirement . . . is amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the non-moving party.” *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1307 (Fed. Cir. 2008). “A party must prove invalidity for lack of written description by clear and convincing evidence.” *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 682 (Fed. Cir. 2015).

I. Enablement

The enablement requirement, considered a separate and distinct requirement contained in 35 U.S.C. § 112, ¶ 1, assesses whether “one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). Because the enablement inquiry takes into account what is known to one skilled in the art, the Federal Circuit has “repeatedly explained that a patent applicant does not need to include in the specification that which is already known to and available to one of ordinary skill in the art.” *Koito Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1156 (Fed. Cir.

2004). “Enablement is a legal question based on underlying factual determinations.” *Vasudevan*, 782 F.3d at 684. Factors considered in assessing the enablement requirement include:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988). “A party must prove invalidity for lack of enablement by clear and convincing evidence.” *Vasudevan*, 782 F.3d at 684.

III. DISCUSSION

A. Summary Judgment

1. The Asserted Claims are not Directed to an Abstract Idea

Plaintiff has moved for summary judgment of no invalidity under 35 U.S.C. § 101. (D.I. 739). Defendant cross-moves for summary judgment of invalidity.² (D.I. 856). Plaintiff argues that the asserted claims are not directed to an abstract idea, or, in the alternative, embody an inventive concept. (D.I. 740 at 11, 13). Defendant asserts that the ’881 patent claims are directed to the abstract idea of “selecting transmission parameter settings for transmitters so that those transmitters impose similar delays on the data they transmit,” (D.I. 858 at 6), and merely apply a mathematical principle. (*Id.* at 7). I agree with Plaintiff.

First, the asserted claims are not directed to an abstract idea or mathematical concept. Defendant urges that several claim elements are “purely mathematical” and that the claims as a whole merely apply the mathematical equation “ $L = N \cdot D / R$ ”.³ (D.I. 858 at 7). However, the

² Plaintiff argues that Defendant’s cross-motion violates my scheduling order and therefore should be disregarded. (D.I. 929 at 4). However, Rule 56(f) provides that “the court may grant summary judgment for a nonmovant.” Moreover, patent eligibility under § 101 is a legal question and, as such, Plaintiff should have been on notice that by moving for summary judgment, I may resolve that legal question in favor of the Defendant.

³ As described in the specification, the variables in this equation are defined as follows: “L” represents configuration latency, “N” represents the number of bits being transferred, “D” represents the interleaver depth, and “R” represents

Federal Circuit has warned against “describing the claims at such a high level of abstraction and untethered from the language of the claims,” *Enfish*, 822 F.3d at 1337, because “all inventions can be reduced to underlying principles of nature.” *Diamond v. Diehr*, 450 U.S. 175, 189 n.12 (1981). “[A]n application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” *Mayo*, 132 S. Ct. at 1293-94 (cleaned up). Moreover, the Federal Circuit in *Enfish* found it “relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis.” *Enfish*, 822 F.3d at 1335.

The Asserted Claims are directed to an improvement in bonded transceivers: the ability to use bonded transceivers with different data rates while minimizing the differential latency between the transceivers. Claim 17 recites an apparatus with multiple bonded transceivers where the transceivers have different data rates and each transceiver utilizes one or more transmission parameter values to reduce a difference in configuration latency between the transceivers. Claim 18 depends from claim 17 and recites an apparatus where at least one transmission parameter value is a specific type of value.

The claims do not broadly cover essentially all applications of a mathematical formula “for which computers are invoked merely as a tool.” *Enfish*, 822 F.3d at 1336. “[T]he plain focus of the claims is on an improvement to computer functionality itself,” that is, a reduction in the delay of data transmission in DSL technology. *Id.* The claims are not directed to *any* use of the mathematical formulas disclosed in the specification but are specifically directed to minimizing delay on bonded transceivers with different data rates. Moreover, these claims are distinct from

the data transfer rate in data bits per second. ('881 patent, col:6:66-7:34). Additionally, the symbol “*” represents multiplication.

those in *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed Cir. 2016). The claims there were directed to “a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular inventive technology for performing those functions.” *Id.* at 1354. Here, the claims are directed to a specific improvement in how data transmission over DSL lines may be achieved. Therefore, I determine that the asserted claims are not patent ineligible under § 101. Thus, Plaintiff’s motion for summary judgment of no invalidity under § 101 is GRANTED and Defendant’s cross-motion is DENIED.

2. Genuine Material Disputes of Fact Exist as to Infringement

Plaintiff has moved for summary judgment of infringement. (D.I. 746). Defendant independently moved for summary judgment of non-infringement. (D.I. 715). Defendant affirmatively argues that “the un rebutted evidence establishes that the Accused [] Products do not meet the limitations of the claims of the ’881 patent” (D.I. 716 at 5), and that Plaintiff cannot present evidence that creates a material dispute of fact. (*Id.* at 14). Plaintiff argues in its motion, “There is no genuine issue of material fact in dispute that the Accused Products infringe claims 17 and 18 of the ’881 patent.” (D.I. 747 at 5). After reviewing the parties’ submissions, I determine there are material disputes of fact that make summary judgment on the issue of infringement inappropriate.

First, there is a material dispute of fact as to (1) whether the source code functions in an infringing manner and (2) if so, whether the identified source code is compiled in the accused product. Plaintiff has identified testimony by its experts that the operation of the source code used in the accused chip “corresponds to the limitation ‘utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers, wherein a data rate for a first of the bonded transceivers is different than a data rate for a second of the bonded

transceivers.” (D.I. 747 at 12-13 (citing D.I. 748-18 ¶¶ 51-54, 56-57 & Attachment E)). Defendant has identified contradictory testimony from Broadcom’s 30(b)(6) witness, Dr. Yu, that the chipset used in the Accused Products does not calculate transmission parameters as required by the claims because “any minor difference in latency between bonded lines is not likely to be a problem.” (D.I. 716 at 13 (citing D.I. 734-10 at 427:6-8; 427:10-16)). Defendants also provide opinions from its expert, Dr. Walker, that Plaintiff’s expert has failed to show that the purported infringing code is actually compiled into any Accused Product. (D.I. 716 at 22 (citing D.I. 717 ¶¶ 68-72)). However, Plaintiff’s expert, Dr. Almeroth, has provided an opinion that if the infringing code were not compiled, the Accused Product would be incapable of any bonding operation at all. (D.I. 747 at 13 (citing D.I. 748-25 ¶ 24)). Thus, there is a material dispute of fact as to whether the Accused Products use infringing source code.

Second, there is a material dispute of fact as to what the ITU G.998.2 standard requires and whether compliance with that standard infringes the ’881 patent. Dr. Cooklev, Plaintiff’s expert, and Dr. Jacobsen, Defendant’s expert, disagree on whether the standard requires that “[t]he PMD [physical medium dependent] control of aggregated links controls the maximum latency difference between any two aggregated links’ which ‘is achieved by configuring the bit rate, error correction and interleaving functions of the PMA/PMD of each link.” (D.I. 716 at 14; D.I. 729-2 ¶¶ 26-27).

Third, there are material disputes as to the weight to be given to the testimony of Dr. Yu and Dr. Cooklev. Plaintiff alleges that Broadcom’s corporate witness, Dr. Yu, is biased and therefore his testimony should be disregarded. (D.I. 925 at 4 n.1). Defendant argues that Dr. Cooklev’s test were not appropriately configured and should be disregarded. (D.I. 716 at 17).

The resolution of these disputes is reserved for the jury. In evaluating a motion for summary judgment, I am required to view the evidence in the light most favorable to the non-moving party and draw all reasonable inferences in that party's favor. The evidence is such that a reasonable jury could return a verdict for either party. Thus, neither party is entitled to summary judgment on the issue of infringement. I deny both Plaintiff's motion for summary judgment of infringement and Defendant's motion for summary judgment of non-infringement.⁴

3. Material Disputes of Fact Exist as to Anticipation and Obviousness

Plaintiff moves for summary judgment of no invalidity under § 102 and § 103. (D.I. 735). Plaintiff argues that Defendant has not shown and cannot show that any of the three identified references—Counterman, Edvardsen or Keller-Tuberg—taken individually teaches each element of the Asserted Claims. (D.I. 736 at 7). Plaintiff also asserts that summary judgment of no obviousness should be granted because each combination that Defendant asserts lacks at least one element of the asserted claims. (*Id.* at 19). Defendant argues that there are genuine disputes of material fact as to whether the prior art references and combinations teach the limitation that Plaintiff alleges is missing—"each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers." (D.I. 930 at 1). Defendant additionally argues that Plaintiff's motion asks me to weigh the credibility of Dr. Jacobsen's testimony, which is a matter reserved for the jury. (*Id.*).

Plaintiff's motion relies entirely on purported contradictions between Dr. Jacobsen's deposition testimony and her expert reports to allege that the facts are undisputed. Plaintiff thus asks me to weigh the purportedly contradictory testimony in her deposition to negate her opinions

⁴ As I have resolved the motions without consideration of the purportedly new arguments and new evidence identified in Plaintiff's Motion for Leave to File a Sur-Reply (D.I. 1026), I will dismiss that motion as moot.

from her reports. (D.I. 736). That is improper on a motion for summary judgment. “Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge [on summary judgment]. . . The evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor.” *Anderson*, 477 U.S. at 255. A reasonable jury, looking at both Dr. Jacobsen’s testimony from her expert report and deposition could determine that the Asserted Claims are invalid for anticipation and obviousness. Thus, summary judgment of no invalidity under § 102 and § 103 is inappropriate and Plaintiff’s motion is DENIED.

4. The Asserted Claims are not Invalid for Indefiniteness

Plaintiff moves for summary judgment of no invalidity for indefiniteness. (D.I. 739). Plaintiff asserts two theories: (1) that Defendant waived an indefiniteness defense by abandoning its attempt to construe the claim and failing to raise the issue of indefiniteness at claim construction, and (2) that Defendant has failed to prove the claim to be indefinite by clear and convincing evidence. (D.I. 740 at 15-16). Defendant argues that (1) it has not waived the indefiniteness issue and (2) it has presented evidence from which a reasonable jury could conclude that the asserted claims are indefinite. (D.I. 858 at 13-14).

First, Defendant has not waived its indefiniteness defense. There is no requirement that indefiniteness be raised at claim construction. Moreover, case law in this district supports Defendant’s position “that the submission of a proposed construction for a claim term does not amount to a waiver of a later indefiniteness challenge,” and thus the failure to raise indefiniteness at claim construction is not a waiver. *Leader Techs, Inc. v. Facebook, Inc.*, 770 F. Supp. 2d 686, 708 (D. Del. 2011). Therefore, I determine that Defendant has not waived its indefiniteness defense.

Second, Plaintiff has demonstrated that Defendant has failed to make a sufficient showing for its indefiniteness defense. Defendant argues that it “has presented competent evidence that claims 17 and 18 of the ’881 patent are indefinite because a POSITA would not know, with reasonable certainty, when “each bonded transceiver [of a plurality of bonded transceivers is] utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers.” (D.I. 858 at 14). Specifically, Defendant points to Dr. Jacobsen’s testimony that “the transmission parameters for a transceiver . . . are not known until a transceiver is initialized” and therefore “there is no way to establish a reference point to determine that a difference in latency has been reduced.” (*Id.* at 14-15 (citing D.I. 867 ¶¶ 179-80, 184)). Plaintiff argues that Defendant’s indefiniteness argument resurrects its abandoned and incorrect construction of the claim term “to reduce a difference in latency.” (D.I. 740 at 15). Plaintiff asserts that the claim language does not require “reduc[ing] a [known] difference in [already-existing] latency” but at minimum requires only “reducing the potential difference in latency.” (*Id.* at 18).

Defendant’s “arguments appear to be based on the wrong legal standard, i.e., written description or enablement as opposed to indefiniteness.” *Augme Techs., Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1340 (Fed. Cir. 2014). The indefiniteness standard requires that the claims “viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 572 U.S. at 910. The asserted claims are clear on their face as to what is claimed. Dr. Jacobsen’s testimony reflects that a person of ordinary skill would understand the scope of the claim language; her opinion identifies what the claim requires. Her objection is that there is no embodiment demonstrating how to reduce rather than how to eliminate the difference in configuration latency. This is not an issue of whether a person of ordinary skill in the art would understand the claim scope, but an issue of whether that claim is

properly supported by written description or enabled by the patent specification. Therefore, I determine that the term “each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers” is not indefinite. Thus, Plaintiff’s motion for summary judgment of no invalidity for indefiniteness is GRANTED.

5. Material Disputes of Fact Exist as to Written Description

Plaintiff moves for summary judgment of no invalidity for written description. (D.I. 739). Plaintiff asserts that there is no dispute that the specification describes an embodiment of the claims and that description of a single embodiment satisfies the written description requirement of § 112. (D.I. 740 at 20). Defendant argues that § 112 requires sufficient written description for the full scope of the claim and the ’881 patent fails this requirement. (D.I. 838 at 18-19). Specifically, Defendant’s expert, Dr. Jacobsen, provides testimony that “the written description and drawings do not disclose and do not provide any guidance regarding how to reduce, without eliminating entirely, a difference in configuration latency between the bonded transceivers.” (D.I. 867 ¶ 197).

The parties do not dispute that the ’881 patent discloses how to eliminate any difference in configuration latency. (D.I. 838 at 19). However, the parties do not agree that disclosure of how to eliminate that difference is an adequate disclosure to support the broader claim on how to *reduce* the difference. (*Id.*). Defendant alleges that there are important differences between elimination and reduction of differential configuration latency. (D.I. 838 at 20). Taking the evidence in the light most favorable to the non-moving party, as I am required to do, I determine that a reasonable jury could find that the asserted claims are invalid for lack of written description.

6. The Asserted Claims are Not Invalid for Lack of Enablement

Plaintiff moves for summary judgment of no invalidity for lack of enablement. (D.I. 739). Plaintiff asserts that Dr. Jacobsen’s analysis “is insufficient to demonstrate that ‘a person of

ordinary skill in the art would not be able to practice the claimed invention without undue experimentation,” because she “has not explained why a POSITA . . . will be unable to realize non-identical configuration latencies by adding an offset value.” (D.I. 740 at 19-20 (citing *Alcon*, 745 F.3d at 1188)). Defendant argues that it has presented evidence that the full scope is not enabled because the ’881 patent does “not describe to a POSITA how to reduce a difference in latency without eliminating it entirely.” (D.I. 858 at 17 (citing D.I. 867 ¶¶ 205-10)).

The appropriate standard for enablement assesses whether a POSITA “after reading the specification, could practice the claimed invention without undue experimentation.” *Sitrick*, 516 F.3d at 999. Dr. Jacobsen’s expert testimony on enablement in both her expert report and declaration, taken in the light most favorable to Defendant, does not satisfy this standard. (D.I. 743-5 ¶¶ 145-148; D.I. 867 ¶¶ 205-210). Dr. Jacobsen makes no assessment of whether a POSITA would be able to practice the claimed invention after reading the specification. The closest she comes is the statement that “enabling [reduction in differential latency] would have required one of ordinary skill in the art to add functionality to the transceivers, or the system.” (D.I. 743-5 ¶ 146; D.I. 867 ¶ 206). She does not, however, offer any opinion on whether a POSITA would understand how to add that functionality to the transceiver without engaging in undue experimentation. Dr. Jacobsen’s report focuses wholly on what the specification discloses and ignores that information “already known to and available to one of ordinary skill in the art” need not be included in the specification for the patent to be enabled. *Koito*, 381 F.3d at 1156. Therefore, Plaintiff has demonstrated that Defendant failed to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof. *See Celotex Corp.*, 477 U.S. at 322. Thus, I grant Plaintiff’s motion for summary judgment of no invalidity for lack of enablement.

B. DAUBERT

1. Dr. Walker's Rebuttal Report

Plaintiff moves to exclude Dr. Walker's opinions in his reply rebuttal report on the Broadcom source code because (1) Dr. Walker lacks knowledge to support his opinions because he did not personally review the source code, (2) Dr. Walker merely parrots the opinions of his assistant, Mr. Haeberli, and (3) Dr. Walker's opinions are inadmissible under Federal Rule of Evidence 403. (D.I. 731 at 16-17, 22). Defendant asserts that Dr. Walker properly relied on Mr. Haeberli's review of the source code, that Dr. Walker's opinions are his own, and that there is no risk that Dr. Walker's testimony would mislead the jury or cause confusion. (D.I. 841 at 13, 16, 18). I agree with Defendant.

First, Dr. Walker's reliance on printouts of the source code produced under the protective order, Dr. Almeroth's review of the source code, and Mr. Haeberli's review of the source code, is permissible under Rule 702 and *Daubert*. Expert testimony must be based on sufficient facts or data and be the product of reliable principles and methods. Fed. R. Evid. 702. Courts in the Third Circuit allow expert witnesses to "use assistants in performing [their] work, so long as those assistants do not exercise professional judgment that is beyond the expert's ken." *Adani Exports Ltd. v. AMCI (Export) Corp.*, 2008 WL 4925647, at *3 (W.D. Pa. Nov. 14, 2008); *see also Muhsin v. Pac. Cycle, Inc.*, 2012 WL 2062396, at *5 (D.V.I. June 8, 2012). Additionally, I have previously found expert testimony admissible over a *Daubert* objection where the expert relied on excerpts of source code provided to him. *Iplearn, LLC v. Blackboard, Inc.*, 2014 WL 4954462, at *2 (D. Del. Sept. 29, 2014). As in that case, Dr. Walker was able to evaluate whether any pieces of the produced source code were related to infringement. (D.I. 732-20 ¶¶ 43-44, 54). Whether Dr.

Walker should have personally reviewed the entirety of the source code is a matter for cross-examination, not admissibility.

Second, I do not find Dr. Walker's opinions relying on Mr. Haeberli's review of the source code to be "mere parroting" of another's opinion. Dr. Walker's rebuttal report makes clear that he directed the methodology of Mr. Haeberli's review of the source code and gave specific instructions. (D.I. 732-20 ¶¶ 38, 46). I determine that Mr. Haeberli's review is the type of information upon which an expert would reasonably rely in making his opinions. Moreover, Plaintiff may cross-examine Dr. Walker on the methodology about which he instructed Mr. Haeberli and whether he actually reviewed the source code himself. This is not an issue of admissibility.

Third, I determine that Dr. Walker's testimony is not so likely to mislead the jury and confuse the issues as to substantially outweigh the probative value of his testimony. Dr. Walker's expert report makes clear when he is relying on "produced" source code and when he is relying on Mr. Haeberli's review of the escrowed source code. (D.I. 732-20 ¶¶ 33-56). Moreover, these distinctions are the sort that are easily clarified on cross-examination. Therefore, under Rule 403, I do not find the probative value of Dr. Walker's expert testimony to be substantially outweighed by the risk of confusing the issues or misleading the jury.

Thus, Plaintiff's motion to exclude Dr. Walker's testimony is DENIED.

2. Dr. Cooklev's Opinions

Defendant moves to exclude Dr. Cooklev's testimony because (1) he is not qualified to render opinions, (2) his opinions are not relevant because they do not test for differential latency, and (3) his methodology is flawed. (D.I. 721 at 11, 13, 16). Plaintiff asserts (1) that Dr. Cooklev

is qualified in the field of DSL technology, (2) that his opinions are reliable, and (3) that his methodology is reliable. (D.I. 850 at 12, 16, 20). I agree with Plaintiff.

First, I determine that Dr. Cooklev is qualified to offer his opinions. “The Third Circuit has interpreted the ‘qualification’ requirement liberally, explaining: ‘Qualification requires that the witness possess specialized expertise. We have interpreted this requirement liberally, holding that a broad range of knowledge, skills, and training qualify an expert as such.’” *Sonos, Inc. v. D & M Holdings, Inc.*, 297 F. Supp. 3d 501, 508 (D. Del. 2017) (quoting *Calhoun v. Yamaha Motor Corp., U.S.A.*, 350 F.3d 316, 321 (3d Cir. 2003)). It is improper for a court “to exclude testimony simply because the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization that the court considers most appropriate.” *Pineda v. Ford Motor Co.*, 520 F.3d 237, 244 (3d Cir. 2008). “[I]t is not necessary that the expert have expertise in the precise technology that is the subject of the patent or patents in suit.” *Sonos*, 297 F. Supp. 3d at 510 (citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741 (3d Cir. 1994)).

I am satisfied that Dr. Cooklev’s qualifications are sufficient to make his testimony helpful to the jury in understanding the evidence in this case. Dr. Cooklev holds a Ph.D in Electrical Engineering. As a professional, “Dr. Cooklev has worked extensively in the network communications industry, including with various types of wired and wireless multicarrier communications systems.” (D.I. 850 at 9). Dr. Cooklev’s research has also involved DSL standards. (D.I. 850 at 10). Dr. Cooklev’s qualifications far exceed the qualifications of a POSITA as set out by Defendant’s expert. (D.I. 743-5 ¶ 53). Defendant objects that Dr. Cooklev’s experience is with wireless technologies, and that his experience with wired DSL technology is insufficient to qualify him to testify as an expert. (D.I. 721 at 12). Defendant attempts to define the pertinent art too narrowly. I determine that Dr. Cooklev has sufficient experience with

communication systems, including DSL, to offer specialized testimony that would be helpful to the jury.

Second, I find Dr. Cooklev's opinions are relevant to aid the jury in assessing the accused products for infringement. Defendant objects that Dr. Cooklev does not test for differential latency. (*Id.* at 13). Both Plaintiff and Dr. Cooklev acknowledge that his testing has limitations. That Defendant disagrees with the value of Dr. Cooklev's tests, however, is not a matter of admissibility, but of weight and credibility. Defendant may address the purported deficiencies of Dr. Cooklev's testing through cross-examination and the presentation of contrary evidence.

Third, I find Dr. Cooklev's methodology to be reliable. The parties and their experts appear to disagree as to the existence of standard industry testing. (D.I. 721 at 16; 850 at 20). Moreover, Defendant's dispute as to whether Dr. Cooklev selected the appropriate test or configured his test appropriately goes to the weight and credibility of Dr. Cooklev's opinion, not to its admissibility. Defendant may challenge Dr. Cooklev's opinions through cross-examination and the presentation of contrary evidence.

3. Dr. Jacobsen's Testing Opinions

Plaintiff moves to exclude Dr. Jacobsen's opinions⁵ regarding both Dr. Cooklev and Defendant's testing of the Accused Products because:

(1) her rebuttal report's failure to cite to and provide the "service profiles," and explain some portion of the "service profiles" [which] supports her opinions violates the disclosure requirements of Rule 26; (2) such opinions are unreliable under FRE 702 and *Daubert* because Dr. Jacobsen does not provide any information on the service profiles that she relied on; and (3) such opinions are irrelevant because infringement of claims 17 and 18 of the '881 patent by the Accused Products is not dependent on actual use of the Accused Products by 2Wire's customers.

⁵ Plaintiff also moves to exclude Dr. Jacobsen's opinions on damages and valuation. (D.I. 719 at 6). However, I have dismissed these issues without prejudice as premature. (D.I. 1035).

(D.I. 719 at 7). Defendant asserts that Dr. Jacobsen's opinions should not be excluded because Plaintiff had the "service profile" information from a separate document disclosure and had sufficient information such that Dr. Cooklev could have properly configured his tests. (D.I. 854 at 24). I agree with Defendants.

While Dr. Jacobsen's rebuttal report, dated November 30, 2018, does not contain the service profile information upon which she relies for her opinions, citing "confidentiality" concerns (D.I. 743-14 ¶¶ 70, 77), Defendant provided the service profiles to Plaintiff as a part of "document production" in an email on November 29, 2018, the day before Dr. Jacobsen's report. (D.I. 743-17). Plaintiff argues that this production is not sufficient to save Dr. Jacobsen's opinions because the report did not indicate that the service profiles would be provided (D.I. 743-14 ¶¶ 70, 77), and the email did not indicate that the production was related to Dr. Jacobsen's rebuttal report. (D.I. 743-17). However, I note that Plaintiff waited until December 20, 2018, the day before Dr. Cooklev's reply report was due, to inquire about the underlying service profile information. (D.I. 743-18 at 2-3). Given how close in time the production of the service profiles was to Dr. Jacobsen's report, exclusion of Dr. Jacobsen's opinions under Rule 26 or *Daubert* would elevate form over substance. Moreover, Plaintiff has had the opportunity to depose Dr. Jacobsen on her opinions and the underlying methodology used in Defendant's testing of the Accused Products. Thus, Dr. Jacobsen's opinions regarding the service profile testing will not be excluded under *Daubert* or Rule 26.

I also agree with Defendant regarding Dr. Jacobsen's reliance on a conversation with Mr. Miller, Defendant's corporate witness on technical issues. Dr. Jacobsen's conversation with Mr. Miller is the sort of evidence that an expert would normally rely on in reaching his or her conclusions. Moreover, Plaintiff's primary objection is that Dr. Jacobsen "provides absolutely no

documentation regarding the scope of the alleged interview or what facts and data were discussed during such interview.” (D.I. 719 at 20). However, Plaintiff had the opportunity to depose both Mr. Miller and Dr. Jacobsen, and Dr. Jacobsen’s opinion discloses the relevant facts from her interview with Mr. Miller. (D.I. 743-14 ¶ 61). Thus, Dr. Jacobsen’s reliance on her interview with Mr. Miller does not violate either Rule 26 or *Daubert*.

Plaintiff’s motion to exclude Dr. Jacobsen’s opinions is thus DENIED.

IV. CONCLUSION

For the foregoing reasons, the parties’ motions are resolved as follows:

1. Plaintiff’s Motion for Summary Judgment of Infringement is DENIED.
2. Defendant’s Motion for Summary Judgment of Non-Infringement is DENIED.
3. Plaintiff’s Motion for Leave to File a Sur-Reply is DISMISSED as moot.
4. Plaintiff’s Motion for Summary Judgment of No Invalidity under § 101 and § 112 is GRANTED as to patent eligibility, indefiniteness, and enablement and DENIED as to written description.
5. Defendant’s Cross-Motion for Summary Judgment of Invalidity under § 101 is DENIED.
6. Plaintiff’s Motion for Summary Judgment of No Invalidity under § 102 and § 103 is DENIED.
7. Plaintiff’s Motion to Preclude Opinions of Dr. Jacobsen is DENIED as to her testing opinions and the remainder is dismissed as premature.
8. Defendant’s motion to Preclude the Expert Testimony of Dr. Cooklev is DENIED.
9. Plaintiff’s Motion to Preclude Expert Opinions of Dr. Walker is DENIED.

An accompanying order will be entered.